

ABSTRACT OF THE DISCLOSURE

This invention provides an electron source manufacturing apparatus which can be easily downsized and operated. The electron source manufacturing apparatus includes a support member for supporting a substrate (10) having a conductor (11), a vessel (12) which has a gas inlet port (15) and a gas exhaust port (16) and covers a partial region of the surface of the substrate (10); a gas inlet unit (24) connected to the gas inlet port (15) to introduce gas into the vessel, an exhaust unit (26) connected to the gas exhaust port to evacuate the interior of the vessel, and a voltage application unit (32) for applying a voltage to the conductor.